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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/707,514

12/19/2003

Hsiuan-Hau Chien

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01/13/2005

(NAIPC) NORTH AMERICA INTERNATIONAL PATENT OFFICE

P.O. BOX 506

MERRIFIELD, VA 22116

EXAMINER

COX, CASSANDRA F

ART UNIT

PAPER NUMBER

2816

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/707,514

Applicant(s)

CHIEN, HSIUAN-HAU

Examiner

Cassandra Cox

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 9-12, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) 5, 8, 13 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not provide support for the claimed limitation of the phase difference between the n-th reference clock and the first reference clock being $((n-1)/N)*360$ degrees.

Claim Objections

2. Claim 13 is objected to because of the following informalities: In line 5 of claim 13 insert "." after the word "clocks". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-4, and 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In reference to claims 2 and 10, the claim is indefinite because it is not clear to the examiner what the variable "n" represents. It is not clear if "n" is equal to 1 to N or some other value. Applicant should clarify. The same applies to the variable "m" in claims 4 and 12. Claim 3 is indefinite because it is not clear what the variable N represents. It appears to the examiner that the claim should depend from claim 2 rather than claim 1.

Claim 11 is also rejected due to the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 6-7, 9, and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. (U.S. Patent No. 6,356,123).

In reference to claim 9, Lee discloses in Figure 1 a signal circuit for providing at least one output clock (CLK_OUT) according to a plurality of reference clocks (CLK_A, CLK_B), making the period of the output clock a predetermined multiple of the period of the reference clocks, the signal circuit comprising: a reference clock circuit (13) for providing a plurality of reference clocks, the periods of reference clocks being the same, and the phases between the different reference clocks being different, a triggering module including a plurality of state machines (15, 20), each state machine corresponding to a reference clock, for triggering a plurality of the corresponding intermediate signals (ar, af, br, bf) according to each period of the reference clocks, and for making the minimum period of the intermediate signals an integer multiple of the period of the corresponding reference clock, the phases between the intermediate signals corresponding to the same reference clock being different; and a logic module (30) including a plurality of logic gates (31-33, see Figure 11), the logic module

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performing a logic operation between at least two intermediate signals respectively corresponding to two different reference clocks, providing an output clock (CLK_OUT) according to the result of the logic operation, the minimum period of the output clock being shorter than the period of the intermediate signals (see Figure 10). The same applies to claim 9.

In reference to claim 14, Lee discloses in Figure 10 that the period of each intermediate signal (ar, af, br, bf) kept at a first level by each state machine (15, 20) is an integer multiple of the period of the reference clock (CLK_A, CLK_B). The same applies to claim 6.

In reference to claim 15, Lee discloses in Figure 1 that each state machine generates a plurality of the intermediate signals (ar, af, br, bf) by edge-triggering. The same applies to claim 7.

Allowable Subject Matter

7. Claims 5, 8, 13, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Claims 5 and 13 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 8 wherein the state machines (36) trigger M intermediate signals according to each period of each reference clock (CK_n), making the minimum intermediate signal M times the clocks period of the reference in

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combination with the rest of the limitations of the base claims and any intervening claims. Claims 8 and 16 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 17 wherein the period of the output clock (Qe2) generated by the logic module (40) is shorter than the period of the reference clocks (CK_n) in combination with the rest of the limitations of the base claims and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cassandra Cox whose telephone number is 571-272-1741. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM and on alternate Fridays from 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

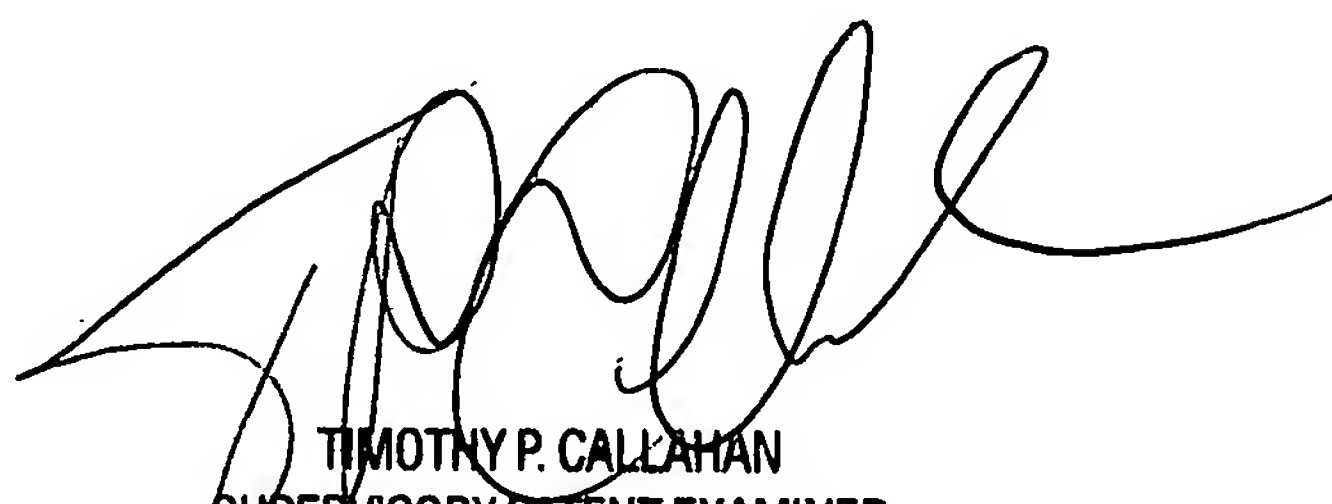
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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January 7, 2005



TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
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